

the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions" (emphasis added). It is respectfully submitted that this policy should apply in the present application in order to avoid unnecessary delay and expense to Applicants and duplicative examination by the Patent Office.

Accordingly, withdrawal of the Restriction Requirement is respectfully requested.

Claims 1-9 and 11-12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,395,027 (Klotz) in view of U.S. Patent No. 5,803,990 (Mosser); and claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Klotz in view of Mosser and further in view of U.S. Patent Application Publication No. 2002/0107133 (Troczyński) and U.S. Patent No. 3,857,717 (Wydra). These rejections are respectfully traversed.

The applied references do not support an obviousness rejection because they fail to disclose or suggest a method for forming "a diffusion barrier comprising a phosphate bonded ceramic on the titanium alloy substrate," as recited in claim 1 (emphasis added).

The Office Action cites Klotz as allegedly disclosing a method for forming a barrier comprising a phosphate bonded ceramic. The Office Action acknowledges that Klotz fails to explicitly disclose a titanium alloy substrate, but asserts that Klotz teaches the use of "ferrous base metals" as suitable substrates. See Office Action at page 5. The Office Action further asserts that Mosser teaches that titanium alloys are ferrous compounds, and that therefore it would be obvious to a person of ordinary skill in the art to modify the coating method in Klotz to include a titanium alloy substrate because Mosser "teaches that titanium alloy is a ferrous compound."

The obviousness rejection should be withdrawn because a person of ordinary skill in the art would not consider the "titanium alloy" recited in claim 1 to be a ferrous compound under any reasonable interpretation of the claim language.

Specifically, the phrase "ferrous base metals," cited in Klotz, clearly refers to metals made primarily of iron because the word "ferrous" means relating to or containing iron. See, for example, Webster's II New College Dictionary, p. 413 (2001)("Of relating to, or containing iron, esp. with valence 2."); and The American Heritage College Dictionary, Fourth Edition, pp. 512-513 (2002)("Of or containing iron, esp. with valence 2 or a valence lower than in a corresponding ferric compound.").

Accordingly, in view of the well-established meaning of "ferrous," a person of ordinary skill in the art would not interpret Mosser as teaching that titanium alloys are a ferrous compound, as alleged in the Office Action. Specifically, in relevant part, Mosser states "[t]he coating compositions of the invention can be applied to any ferrous metal alloy surfaces including cast iron, mild steel, low alloy steels, the 300 series stainless steels, nickel based alloys, and titanium alloys." See Mosser at col. 11, lines 22-25. Applicants respectfully submit that the only reasonable interpretation of this passage is that Mosser teaches that its compositions can be applied to ferrous metal alloys and nickel based alloys and titanium alloys, but does not suggest that titanium alloys (or nickel alloys) are considered to be ferrous metal alloys.

Furthermore, the phrase "titanium alloy" is described in the specification of the pending application as "an alloy in which the component present in the largest weight proportion is titanium." Of course, ferrous based metals might include small amounts of titanium (and vice-versa), but the phrase "titanium alloy" as used in the present disclosure would not be considered a "ferrous base metal" as alleged in the Office Action because a "ferrous base metal" or a ferrous compound could not reasonably be interpreted as having titanium as the main component. See also specification at page 5.

Furthermore, a person of ordinary skill in the art would appreciate that it can be very difficult to predict the outcome of applying a particular coating to a titanium alloy substrate,

and whether the particular coating would exhibit advantageous properties on the titanium alloy substrate. See, for example, the specification at page 2, fourth paragraph, through page 3, first paragraph. Thus, there is no suggestion that it would be desirable or successful to apply the coating composition in Klotz to a titanium alloy.

In view of the above deficiencies, there is no motivation to modify Klotz as alleged by the Office Action to coat a titanium alloy substrate. That is, the Office Action has failed to provide explicit "articulated reasoning with a rational underpinning" to support its legal conclusion of obviousness. *KSR Int'l Co. v. Teleflex, Inc.*, No. 04-1350, slip op. at 14 (U.S. April 30, 2007), citing *In re Khan*, 441 F.3d 997, 998 (Fed. Cir. 2006). Thus, for the above reasons claim 1 is patentable over the applied references.

Claims 2-12 depend from claim 1 and are therefore also patentable over the applied references for at least the reasons enumerated above, as well as for the additional features they recite.

Accordingly, withdrawal of the rejections is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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